Not Entered
/PP/
April 30, 2009

Claim Amendments:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A bioactive artificial sintered composition for supporting bone cell activity, said composition consisting essentially of:

a stabilized alpha tricalcium phosphate and hydroxyapatite in a ratio of at least 50:50 alpha tricalcium phosphate:hydroxyapatite, wherein the stabilized alpha tricalcium phosphate is stabilized with a stabilizing entity selected from the group consisting of silicon entities, aluminum entities, barium entities, titanium entities, germanium entities, chromium entities, vanadium entities, niobium entities, boron entities and mixtures thereof;

wherein said composition is bioactive to support osteoblastic bone growth and to support extracellular resorption of said composition by osteoclasts; and

wherein said composition is in the form of a powder, granules, or a bulk material.

2. to 11. – Cancelled

12. (Currently Amended) The bioactive artificial sintered composition of claim 1, wherein said composition is insoluble in physiological fluids, said physiological fluids having a pH of approximately 6.4 to 7.3.

13. to 22. - Cancelled

23. (Currently Amended) The bioactive artificial sintered composition of claim 1, where said composition is provided as a microporous polycrystalline structure.

24. to 25. - Cancelled

26. (Currently Amended) The bioactive artificial sintered composition of claim 1, wherein said composition is in the form of rounded granules with a lateral dimension of about 0.5 μm to 1 μm.

27. to 37. - Cancelled

38. (Currently Amended) The bioactive artificial sintered composition of claim 1, wherein said stabilizing entity is silicon.

39. to 46. - Cancelled.

47. (Previously Presented) The bioactive artificial sintered composition of claim 1, wherein said ratio is in a range of 50:50 to 80:20.

48. (Previously Presented) The bioactive artificial sintered composition of claim 1, wherein said ratio is at least 666:333.

49. (Previously Presented) The bioactive artificial sintered composition of claim 48, wherein said ratio is in a range of 666:333 to 80:20.

50. (Currently Amended) A bone replacement composition comprising alpha tricalcium phosphate and hydroxyapatite in a ratio of at least 666:333 alpha tricalcium phosphate to hydroxyapatite, wherein the alpha tricalcium phosphate is stabilized with a stabilizing entity selected from the group consisting of silicon entities, aluminum entities, barium entities, titanium entities, germanium entities, chromium entities, vanadium entities, niobium entities, boron entities and mixtures thereof, and wherein the bone replacement composition is in the form of a powder, granules, or a bulk material.

51. (Previously Presented) The bone replacement composition of claim 50, wherein the stabilizing entity includes silicon entities.

52. (Previously Presented) The bone replacement composition of claim 50, wherein the ratio is 666:333 to 80:20.

53. (Currently Amended) The bone replacement composition of claim 50, wherein the composition consists essentially of the stabilized alpha tricalcium phosphate and the hydroxyapatite.

54. (Cancelled)

55. (Currently Amended) A bioactive artificial sintered composition for supporting bone cell activity, the composition comprising:

stabilized alpha tricalcium phosphate and hydroxyapatite in a ratio of at least 666:333 alpha tricalcium phosphate to hydroxyapatite, wherein the stabilized alpha tricalcium phosphate is stabilized with a stabilizing entity selected from the group consisting of silicon, aluminum, barium, titanium, germanium, chromium, vanadium, niobium, boron, and mixtures thereof;

wherein the composition is insoluble in physiological fluids of pH 6.4 to 7.3;

wherein the composition is bioactive to support osteoblastic bone growth and to support extracellular resorption of the composition by osteoclasts; and

wherein the composition is in the form of a powder, granules, or bulk material.

56. (Previously Presented) An implantable calcified bone matrix comprising:

a) the composition of claim 50 forming a structure for supporting a calcified bone matrix; and

b) the calcified bone matrix secreted by osteoblasts on the structure, wherein the matrix is free of bone cells including osteoblasts.

57. (New) The bioactive artificial sintered composition of claim 1, where the ratio is in a range of 50:50 to 90:10.

58. (New) The bone replacement composition of claim 50, wherein the ratio is in a range of 666:333 to 90:10.

59. (New) The bioactive artificial sintered composition of claim 55, wherein the ratio is in a range of 666:333 to 90:10.

60. (New) A bone replacement composition comprising alpha tricalcium phosphate and hydroxyapatite in a ratio in a range of 666:333 to 80:20 alpha tricalcium phosphate to hydroxyapatite, wherein the alpha tricalcium phosphate is stabilized with a stabilizing entity selected from the group consisting of silicon entities, aluminum entities, barium entities, titanium entities, germanium entities, chromium entities, vanadium entities, niobium entities, boron entities and mixtures thereof, and wherein the bone replacement composition is in the form of a powder, granules, or a bulk material.